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ABSTRACT

The fact that comprehension is a topic that ranges across many fields is shown by the variety of subjects and areas that are considered in this bibliography. Entries are arranged under the following eight sections: Cloze, Critical Reading and Creativity, Factors, Language, Readability, Skills, Theory, and Thinking. A few of the many articles published on the cloze technique, which now has a variety of applications in testing, in teaching, with the spoken word, and in linguistics among other fields, are referenced. The relatively vast literature on critical reading and creative reading is selectively sampled. The section on factors includes references to such factors as word analysis skills, interest, rate time intervals, materials, and evaluation and their relationship to comprehension. The depths of reading comprehension are explored and probed in the references contained under the section entitled Theory. Some of the references cited in the section Thinking deal with concept attainment, cognitive functioning, and problem solving as they are related to reading comprehension. References to listening comprehension are excluded because of extensive bibliographies already published. (This document previously announced as ED 049 897.) (Author/DH)

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COMPREHENSION IN READING

An Annotated Bibliography

Compiled by Richard T. Green
Masconomet Regional School District
Topsfield, Massachusetts
1971

Ramon Ross, *General Editor*

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INTRODUCTION

Comprehension in reading is a topic that ranges across many fields. No references have been made to listening comprehension as such. This is a discrete decision based upon the knowledge of work done by Duker and Devine and Brassard. Perhaps some may take this as indiscrete.

The cloze is treated at some length because of its integral relationship with comprehension despite its varied and allied ramifications throughout other disciplines.

Language is the backdrop of reading, and recent linguistic developments have implications for reading and for comprehension that may keep researchers busy for some time to come.

Readability has received extensive treatment elsewhere but it still needs to be related to comprehension lest one consider only legibility as the criterion.

Among the major contributions to researchers are the annual summaries of research that appear in the journals: For example the winter issue of the *Reading Research Quarterly*. The work of Edward G. Summers in editing the *20 Year Annotated Index to The Reading Teacher* published by the International Reading Association in 1969, must also be mentioned. The book contains 816 references, and summarizes the articles on comprehension, interpretation and creative reading, critical reading, concept development, and thinking.

CLOZE

This technique was first reported in 1953 by Wilson Taylor. The notion came from gestalt psychology and states that it is a natural human tendency to complete an incomplete figure.

At first it was standard treatment to delete every *nth* word and to score as right only exact reproductions of missing words. Early applications dealt with readability and the measurement of comprehension.

Since then a great variety of applications have been found not only in testing but also in teaching, with the spoken word, and in linguistics among other fields. Word deletions now may be random, selected, logical, or parts of speech. Scoring varies according to experimental purpose. These are a few of the many articles published.

BEARD, JACOB G. "Comprehensibility of High School Textbooks: Association with Content Area," *Journal of Reading,* 11 (December 1967), 229-234. (4 references)

Investigates relative difficulty of texts according to subject matter. Employs the cloze procedure. Concludes there is little difference among the various subjects.

BICKLEY, A. C., BILLIE J. ELLINGTON, and RACHEL T. BICKLEY. "The Cloze Procedure: A Conspectus," *Journal of Reading Behavior,* 2 (Summer 1970), 232-249. (115 references)

Reports the research and literature. Topics include: readability, comprehension, language, and methodology. Concludes the cloze procedure has been shown to be an effective research technique and that it has untapped potential for other uses.

BLOOMER, RICHARD H. "The Effects of Non-Overt Reinforced Cloze Procedure upon Reading Comprehension," *Fifteenth Yearbook of the National Reading Conference,* 1966, 31-40. (4 references)

Reports a series of experiments which relate to the hypothesis that self-reinforcement might be found in answering cloze materials. Findings indicate that relative comprehension decreases with simple material. Cautions care in dealing with prereading surveys, test results, and drawing conclusions about the relationship between cloze procedure and reading comprehension.

BORMUTH, JOHN. "Comparable Cloze and Multiple-Choice Comprehension Test Scores," *Journal of Reading,* 10 (February 1967), 291-299. (11 references)

Studies the relative merits and concludes that the cloze procedure is complex and that no generalizations beyond the study can be made.

GREENE, FRANK P., et al. "Cloze Symposium," *Seventeenth Yearbook of the National Reading Conference,* 1968, 110-131. (12 references)

Assumes that the reader is familiar with the technique. Uses of cloze mentioned include: testing of intelligence, aptitude, syntactic ability, as a controlled projective device, for teaching grammar and syntax, composition, reading comprehension, and the learning of content. Concludes with participants' comments on their personal experiences.

GUICE, BILLY M. "The Use of the Cloze Procedure for Improving Reading Comprehension of College Students," *Journal of Reading Behavior,* 1 (Summer 1969), 81-92. (16 references)

Reports inconclusive results with 76 subjects. Attempts to relate comprehension, intelligence, creativity, and successful closure. Recommends replication with a larger N, use of a second control group, use of contrasting cloze procedures, and contrast of comprehension and vocabulary cloze effectiveness.

HAFNER, LAWRENCE E. "Relationships of Various Measures to the 'Cloze'," *Thirteenth Yearbook of the National Reading Conference,* 1964, 135-145. (6 references)

Studies the interplay between cloze and measures of vocabulary, intelligence, information, achievement, personality, reasoning, grade point average; cloze as a predictor of grades; cloze and extroversion, introversion, and anxiety. Mixed results.

HAFNER, LAWRENCE. "Implications of Cloze," *Fourteenth Yearbook of the National Reading Conference,* 1965, 151-158. (7 references)

Explores the potential of cloze as it relates to reading comprehension, writing, intelligence, concept development, dynamics of thinking, readability, and deletion patterns. Also considers various applications.

HAFNER, LAWRENCE E. "Cloze Procedure," *Journal of Reading,* 9 (May 1966), 415-424. (24 references)

Indicates that the cloze procedure has use in the classroom as a measurement device and as a teaching vehicle. Among the other uses are improvement of comprehension, increasing readability of materials, and studying spoken comprehension. Further claims are made for cloze as a research tool for the discovery and clarification of relationships among personality, cognitive language, and teaching variables.

HEITZMAN, ANDREW J., and RICHARD H. BLOOMER. "The Effects of Non-Overt Reinforced Cloze Procedures upon Reading Comprehension," *Journal of Reading,* 11 (December 1967), 213-223. (4 references)

Reports experiment using cloze for the implicit improvement of reading comprehension. Concludes that cloze is not effective in this case. Comprehension performance varied with the kinds of items. Noun deletions were more readily apparent than were adjectival deletions.

RANKIN, EARL F. "The Cloze Procedure—A Survey of Research," *Fourteenth Yearbook of the National Reading Conference,* 1965, 133-150. (47 references)

Reports known studies employing this technique. Expounds these topics: the cloze procedure as a measuring instrument including the measurement of readability, reading skills, and verbal abilities. Miscellaneous studies involve the cloze device as a way of teaching various age groups encompassing precloze versus post-cloze, length of test, and word deletions. The latter item treats random versus *nth* deletions, also mechanical versus rational deletion, types of words to be deleted, and scoring methods. Concludes there is abundant evidence for validity of the cloze technique and yet notes it is unique as a measuring device.

RANKIN, EARL F., and LOTHAR H. DALE. "Cloze Residual Gain–A Technique for Measuring Learning through Reading," *Eighteenth Yearbook of the National Reading Conference,* 1969, 17-26. (12 references)

Investigates a technique for measuring individual differences in reading skill. Concludes that the cloze test is a valid pre- and post-measure of reading knowledge and that it is a highly sensitive measure. Predicts that new avenues of reading research will be opened as a result of the availability of this technique.

WEAVER, WENDELL W. "The Predictability of Omissions in Reading and Listening," *Eleventh Yearbook of the National Reading Conference,* 1962, 148-153. (13 references)

Considers the semantic and lexical elements in these two input modes. Decides that reading, for one who is proficient, allows better encoding than listening because there is better "matching" of immediate input to central processing. This is so because there are more clues available in that mode.

WEAVER, WENDELL W. "The Effect of Direction of Context on Word Predictability," *Twelfth Yearbook of the National Reading Conference,* 1963, 152-157. (6 references)

Relates the result of an experiment with unilateral and bilateral contexts. Concludes that a context is most restrictive when a word is embedded within it. Bilateral context seems to increase precision pointing to the possibility of exploring the listening-reading interrelationship.

WEAVER, WENDELL W. "Theoretical Aspects of the Cloze Procedure," *Fourteenth Yearbook of the National Reading Conference,* 1965, 115-132. (23 references)

Considers closure and cloze, language organizations and their components, structural and lexical differences, and seeking and finding. Summarizes that the cloze procedure provides the opportunity to examine semantic and syntactic effects of context on particular language units. Cloze has demonstrated potential for such diverse considerations as reading comprehension, achievement testing, aptitude testing, classification of brain injury, readability studies, and researches into suicide.

CRITICAL READING AND CREATIVITY

Two sides of the same coin called comprehension, these fundamental components have a relatively vast literature which cannot be entirely included here. While they qualify, such works as *Imagination* by Harold Rugg, *Act of Creation* by Arthur Koestler, and *Creative Intuition* by Jacques Maritain have not been included. The references considered here are a selective sample.

BERG, PAUL CONRAD. "Creativity as a Dimension of Reading and Performance," *Twelfth Yearbook of the National Reading Conference,* 1963, 143-151. (26 references)

Reviews a number of studies concerned with the correlates of creativity. Explores its relationship with intelligence, achievement, problem solving, and critical thinking. Creativity in reading can no longer merely be tacitly accepted but rather it must be exploited. He concludes that this is the direction future research must take.

BERG, PAUL C., and VICTOR M. RENTEL. "Guides to Creativity in Reading," *Journal of Reading,* 10 (January 1967), 219-230. (43 references)

Considers the interrelationships between creativity and intelligence, academic achievement, problem solving, critical thinking, reading, and classroom activities. Reports the results of several studies to determine identifying variables. Concludes that freedom must prevail over conformity, authority, uniformity, and mediocrity, if we as a nation are to continue in the footsteps of our fathers.

DENBERG, ROBERT, and CHARLES JONES. "Critical Reading in a Developmental Reading Course," *Journal of Reading,* 10 (March 1967), 399-403.

Reports for an experimental junior high reading course the methods of evaluation, course structure, and methods. These principles were treated explicitly: precision with word meanings, structure of thought, and recognition of implicit assumptions. Observations were made in the reading class and in others. Not only did the authors find an improvement in the critical reading ability of some students but they also found an improvement in speaking and writing ability.

ELLER, WILLIAM, and JUDITH G. WOLF. "Factors in Critical Reading," *Fourteenth Yearbook of the National Reading Conference,* 1965, 64-72. (18 references)

Poses several questions which it then answers, among them: Who is trying to convey the message? What is the nature of the communication? What is the mode of communication? What are the characteristics of the recipient of the communication? Concludes with these implications: 1) the conventional academic skills approach does not even touch some major sources of "uncriticalness"; 2) replication of studies reported in this study or in parallel experiments will indicate the vital elements of persuasability; 3) incorporation of the social psychology of communication would improve critical reading courses; and 4) the complexity of reading comprehension would indicate the need to reconsider conventional approaches in terms of data provided by social psychology.

ELLER, WILLIAM, and JUDITH G. WOLF. "Developing Critical Reading Abilities," *Journal of Reading,* 10 (December 1966), 192-198. (33 references)

Cites research that has these implications for the classroom teacher: 1) critical skills must be specifically taught; 2) students should have opportunities to practice these skills in the content areas; 3) classes may need to be reorganized to meet individual differences; 4) peer pressure and lack of confidence may undermine critical judgment; and 5) plans should be made, not for mastery, but for continuing development and improvement of critical reading power.

ELLER, WILLIAM, and JUDITH G. WOLF (Compilers). *Critical Reading: A Broader View,* an annotated bibliography. Newark, Delaware: International Reading Association, 1970. (56 references)

Presents a selective annotated bibliography under three main headings: The Processes of Critical Reading; Research on Critical Reading – Including Factors Which Influence Critical Reading, and Instructional Methodology – and the Teaching of Critical Reading. Notes that the Eric system has reduced the need for hand reference works and made obsolete the "nonevaluative" reference work. Selections were made from the fields of social psychology, semantics, advertising, education, and philosophy.

FOLLMAN, JOHN. "Factor Analysis of Three Critical Thinking Tests, One Logical Reasoning Test, and One English Test," *Eighteenth Yearbook of the National Reading Conference,* 1969, 154-160. (11 references)

Seeks to define critical thinking through correlational and factor analytic techniques. Concludes that critical thinking is not a general ability but a cluster of judgments about the relevance of evidence; certainty of conclusions; recognition of assumptions; and judgments about interrelationships among data, inferences, implications, and conclusions.

HOWARDS, MELVIN. "The Conditions for Critical Reading," in H. Alan Robinson and Ellen Lamar Thomas (Eds.), *Fusing Reading Skills and Content.* Newark, Delaware: International Reading Association, 1969, 171-174.

Presents a gestalt view of critical reading. Critical reading is more than the sum total of critical reading skills anyone might generate. Concludes that critical reading requires the total participation of a whole person in a total environment in order to achieve the organic whole of values, beliefs, information, feelings, and conditions.

KINGSTON, ALBERT J., and WENDELL W. WEAVER. "Reading Research Critically," *Journal of Reading,* 10 (February 1967), 338-341. (16 references)

Cites ten criteria from H. Alan Robinson that constitute the elements of critical reading. These are: the structure of the experiment; bias of the investigator; research design; control of variables; measurement instruments; Hawthorne and/or placebo effects; interrelationships of conclusions, implications, and results; practicability; replication; and fluency of the investigator.

NEWTON, EUNICE SHAED. "Figurative Language: An Achilles Heel in Reading Comprehension," *Journal of Reading,* 8 (October 1964), 65-70. (10 references)

Describes the nonliteral language problem in grades ten through sixteen, and an instructional unit in nonliteral language for high school and college. Opts for "planned, systematic, sequential instruction in comprehending figurative language" for maximum understanding.

NEWTON, EUNICE SHAED. "Critical Reading Applied," in H. Alan Robinson and Ellen Lamar Thomas (Eds.), *Fusing Reading, Skills and Content.* Newark, Delaware: International Reading Association, 1969, 175-182. (11 references)

Considers the critical nature of reading, critical reading skills in secondary school, prerequisite skills for critical reading, textbook reading, and developing skills in comprehending nonliteral language. Concludes that academic success depends upon critical reading proficiency which must be built into the reading program from the early grades if tomorrow's citizens are to sustain and nourish the nation's welfare.

ROUGHTON, EDGAR L. "A Study of Creativity in Reading," *Thirteenth Yearbook of the National Reading Conference,* 1964, 105-109. (7 references)

Hypothesizes that creativity can be isolated from intelligence as an operative variable in reading performance; that intelligence correlates more closely to critical than to creative reading; that creativity is more closely related to creative reading than to critical; and that creativity correlates more highly with high than average or low intelligence. The principle source of variation in each case was intelligence, significant at the 1 percent level. No support for creativity as a factor in high school reading performance.

RYAN, EUNICE G., and E. PAUL TORRANCE. "Training in Elaboration," *Journal of Reading,* 11 (October 1967), 27-32. (12 references)

Reviews some studies of creativity and reports an experiment. Concludes that despite limited evidence specific elaboration training results in the improvement of reading comprehension.

SCHELL, LEO M. "Distinguishing Fact from Opinion," *Journal of Reading,* 11 (October 1967), 5-9. (2 references)

Concludes that it is often difficult to detect the difference between fact and opinion and raises the question of whether the skill should be taught. Suggests that this open-ended approach may serve as a model of the critical thinking technique.

SIMMONS, JOHN S. "Reasoning through Reading," *Journal of Reading,* 8 (April 1965), 311-314. (2 references)

Suggests that high school teachers should seek to extend elementary reading abilities and develop those appropriate to high school, primarily reaction, and assimilation.

SMITH, EDWIN H. "Developing Creative Reading," *Journal of Reading,* 8 (March 1965), 278-282.

Divides reading into three major categories: receptive, critical, and creative. Creative reading consists of convergent and divergent thought, the former to seek an existing answer and the latter perhaps to avoid the conventional wisdom. Critical reading is to appraise, evaluate, and form judgments while

receptive reading is to locate and identify facts, opinions, and reports the author has presented. Concludes that giving students specific techniques will unleash their creativity.

THATCHER, DAVID A. "Reading Instruction, Creativity, and Problem Solving," *Reading Teacher,* 21 (December 1967), 235-240, 260, 297. (6 references)

Reports a study involving 29 classroom teachers and their children in grades five and six. Groups included basal reading, independent reading, teacher preference, and randomly assigned. Results inconclusive.

TORRANCE, E. PAUL. "Creativity," #28 in series *What Research Says to the Teacher.* Washington, D.C.: National Education Association, 1963, 32 pp. (17 general references, 18 selected research references)

Discusses what is meant by creativity, how it is manifested at different educational levels, how creative thinking abilities are measured, what pattern of development the creative abilities follow, what is meant by creative listening, what teachers can do, what the most common blocks to creative development are, how teachers may understand and increase their own creativity, and what the goals should be in guiding creativity. Concludes that there is much research yet to be done and that individual teachers can help develop creativity in their students by tapping the potential within themselves.

FACTORS

Includes references on word analysis skills and their relation to comprehension, also interest, rate time intervals, information, materials, fatigue, listening, decoding, rate methods, purpose, and evaluation.

BENZ, DONALD A., and ROBERT A. ROSEMIER. "Word Analysis and Comprehension," *Reading Teacher,* 21 (March 1968), 558-563. (6 references)

Reports the result of an experiment with 1,490 fourth grade children in five northeastern states. Finds a positive relationship exists between comprehension and phonic and visual skills although there is some variation among the subskills.

BRYANT, N. DALE, and NEL BARRY. "The Relationship between Interest and Reading Rate and between Interest and Reading Comprehension," *Tenth Yearbook of the National Reading Conference,* 1961, 127-130. (1 reference)

Results suggest that interest does not significantly influence reading rate or comprehension when 151 University of Houston freshmen in the developmental reading and study skills course read relatively simple, narrative style articles.

CLARK, MILDRED BALL. "The Affects of Interval Reinforcement on Reading Speed and Comprehension of College Students," *Twelfth Yearbook of the National Reading Conference,* 1963, 206-208.

Finds no significant difference in reading speed and comprehension between reinforced and nonreinforced groups and by ability for 38 University of Southern Mississippi students in an improvement of study class.

COLMAN, E. B., and G. R. MILLER. "A Measure of Information Gained During Prose Learning," *Reading Research Quarterly,* 3 (Spring 1968), 369-386. (13 references)

Discusses three methods of Information Gain (IG): optimal level of predictability; IG of different word classes; IG as a function of passage characteristics, abstract nouns, concrete nouns, verb nominalizations, and word length. Sums by these queries: what measures of IG are appropriate for different materials and different degrees of mastery; can a reliable measure of IG be developed that will more adequately reflect long range constraints; and what were the independent effects upon IG of the predictors plotted?

DUMMETT, MARTY. "An Enthusiastic Approach to Speed and Comprehension," *Eleventh Yearbook of the National Reading Conference,* 1962, 86-88.

Reports a project that utilized the latest equipment in a modern facility. Concludes that teaching materials and mechanical devices – although an aid to speed and comprehension – can never replace the interested, well-trained, and enthusiastic teacher. "The teacher's greatest responsibility is enthusiasm."

GREEN, RICHARD T. "Evaluation of Materials Designed to Improve the Balance in Reading between Comprehension and Rate," unpublished doctoral dissertation, Boston University, 1971, 266 pp. (53 references)

Hypothesizes four kinds of readers: 1) *Natural* with good comprehension and rate in balance; 2) *Deliberate* with good comprehension and slow rate; 3) *Impulsive* with rate too fast for comprehension; and 4) *Hindered* readers with poor comprehension and rate. Treatment consists of 30 lessons involving both convergent and divergent thought production exercises. Results of this experiment with 54 subjects and 49 controls, all high school freshmen, indicate an improvement in the balance for the experimental group significant at the 1 percent level. Suggests other grades and schools be used in a replication.

HAYDEN, LILLIAN A. "The Affect of Physical Fatigue on Reading Rate and Comprehension of College Athletes," *Twelfth Yearbook of the National Reading Conference,* 1963, 202-205.

Finds no comprehension difference between athletes and nonathletes. Subjects were 14 Mississippi Junior College football players. Suggests longer testing periods, correlated studies throughout the country, and a greater variety of individuals included as subjects.

RANKIN, EARL F., JR. "The Relationship between Reading Rate and Comprehension," *Eleventh Yearbook of the National Reading Conference,* 1962, 1-5. (16 references)

Considers reading material variables, reader characteristic variables, and testing procedure variables. Concludes that early research indications that fast readers are good readers was due, in part at least, to the confounding of rate and comprehension on measurements. Later studies find little relationship particularly for difficult material, when critical thinking is necessary, and when the reader's purpose is for precision.

RYSTROM, RICHARD. "Listening, Decoding, Comprehension, and Reading," *Reading Teacher,* 24 (December 1970), 261-266.

Presents a model of the learning processes and of communication. Implications include the need for development of auditory and visual discrimination before decoding and that decoding training should pace and proceed the use of more complex language patterns and comprehension skills.

SCHALE, FLORENCE. "Vertical Methods of Increasing Rates of Comprehension," *Journal of Reading,* 8 (April 1965), 296-300. (7 references)

Describes three methods: vertical skimming, square span, and narrow column. Suggests that teachers should explore them. Stresses speed.

SCHIAVONE, JAMES. *You Can Read Faster.* New York: Grosset and Dunlop, 1963, 96 pp.

Contains ten chapters: 1) How to Improve Your Reading Rate; 2) Your Moving Eyes; 3) Your Purpose in Reading; 4) Vocabulary; 5) Literary Blueprint; 6) Memory; 7) Be a Lively Critic; 8) How to Evaluate What You Read; 9) Study Type Reading–Formula for Retraining; and 10) Skimming and Scanning. Sums with the notion of the complexity of reading, that it is a highly individual process, calls for one's entire background, and that one must learn to recognize and accept for a personal bias regarding the ideas of another.

SMITH, HELEN K. "The Development of Evaluation Instruments for Purposeful Reading," *Journal of Reading,* 8 (October 1964), 17-23. (3 references)

Reports preliminary work on a two form reading purpose test; the first form being employed to identify experimental and control subjects, and the second form to determine effectiveness of instruction designed to improve purposeful reading under various conditions. Topics include description of the test of purpose, development of a test of purpose, preliminary experimentation with the test of purpose, the reading inventory, and current use of the evaluation instruments. No normative data available at that time.

WEAVER, WENDELL W., et al. "Information-Flow Difficulty in Relation to Reading Comprehension," *Journal of Reading Behavior,* 1 (Summer 1969), 41-49. (14 references)

Reports an experiment with 53 college sophomore educational psychology students subjected to a battery of tests to explore the relationships between reading comprehension measure, accuracy of communication measures (cloze tests), association and rote learning tasks, and personality and attitudinal variables. Results indicate high correlation between rote processes and those of concept formation and problem solving, probably due to the "functional similarity of all information processes within the organism."

LANGUAGE

Since the new science of linguistics has emerged the work of Fries set the stage for a linking of the mother tongue with her youngest offspring – reading. The references included here deal with comprehension – the heart of reading.

BRIGGS, F. ALLEN. "Implications of Structure in Language," *Sixteenth Yearbook of the National Reading Conference,* 1967, 225-235.

Begins with a reference to the primary purpose in reading, that is to "extract meaning" from written language. Proceeds to illustrate by discussion and a brief summary of modern grammar. This summary encompasses word order, inflection, and function words, the ways that English shows its grammar. Refers to markers, words, phrases, and sentences. Treats and illustrates the two ways sentence patterns may be made longer for greater precision – by substitution and transformation.

BRIGGS, F. ALLEN. " 'Grammatical Sense' as a Factor in Reading Comprehension," *Eighteenth Yearbook of the National Reading Conference,* 1969, 145-149.

Contends that students learning to read should be taught to recognize grammatical patterns that show negations, questions, emphasis, coordination, and subordination for the efficient extraction of meaning. Samples are given.

FRIES, CHARLES C. *Linguistics and Reading.* New York: Holt, 1963, 265 pp.

Speaks of the stage of productive reading (204-208). Three stages described: 1) transfer, 2) cumulative comprehension, and 3) imaginative. Likens productive reading to a gestalt filling in with meaning just as the child does with the appropriate intonation and stress patterns when learning to speak. Feels that oral reading is useful also for gaining comprehension.

GOODMAN, KENNETH S. "A Psycholinguistic View of Reading Comprehension," *Fifteenth Yearbook of the National Reading Conference,* 1966, 188-196. (8 references)

Discusses language as a system, tentative information processing, three simultaneous systems, language growth, and conceptual growth through reading. Sums with a description of the process of comprehending in the proficient reader.

GOODMAN, KENNETH S. "Reading: A Psycholinguistic Guessing Game," *Journal of the Reading Specialist,* May 1967, 126-135.

Illustrates with a ten-step model the complexity of the reading process.

GOODMAN, YETTA M., and KENNETH S. GOODMAN. *Linguistics and the Teaching of Reading,* an annotated bibliography. Newark, Delaware: International Reading Association, 1967. (105 references)

Refers to comprehension once under the heading dialects and related problems, and six times under reading comprehension, semantics, and meaning.

JENKINSON, M. D. "Comprehension and Some Linguistic Fallacies," *Fifteenth Yearbook of the National Reading Conference,* 1966, 180-187. (12 references)

Examines meaning and linguists, relationships between spoken and written language, problems in oral reconstruction, development of the language repertoire. Concludes that language is still the main tree of knowledge.

READABILITY

The basic reference is *Readability and Reading* by Dale and Seels in the IRA annotated bibliography series. Only a few of the spate of articles are included here. Since the issue of the first Teacher's Wordbook by Lorge many years ago there have been a variety of readability formulas. None take adequate account of style, symbolism, concept density, or quality of a work.

ANDERSON, JONATHAN. "Research in Readability for the Classroom Teacher," *Journal of Reading,* 8 (May 1965), 402-403, 405. (6 references)

Reports two nontraditional approaches: the first by W. L. Taylor uses cloze and the *nth* deletion for each book and then the books are ranked for difficulty; the second by J. McLeod treats the threshold of difficulty. Both methods are nontraditional in that they involve the reader. To insure validity, however, a sufficient sample of students from a given grade must be made.

BELDEN, BERNARD R. "Utilization of Readability Formulas for Effective Instruction," *Eleventh Yearbook of the National Reading Conference,* 1962, 139-147. (17 references)

Considers various readability formulas. Employs the Dale-Chall formula to check texts used in college and adult groups at the University of Oklahoma. Concludes that further refinement of formulas is necessary before the same confidence that has been put into reading ability measurement can be placed in readability measurement. The formulas predict rather than make statements of fact concerning the material.

BORMUTH, JOHN R. "Readability: A New Approach," *Reading Research Quarterly,* 1 (Spring 1966), 79-132. (31 references)

Presents the background, advances in research techniques, problems studied, linearity of regressions, variable strength as a function of reading ability, readability of small language units, validities of readability formulas, new linguistic variables, variables previously studied, procedure, materials, subjects, test administration, scoring, dependent variables, analyses, and results. Concludes that current research is needed since little has been done since 1948. Cloze and psycholinguistics are two new powerful tools for breaking new ground. Prediction and control are now less impossible.

FRY, EDWARD. "A Readability Formula that Saves Time," *Journal of Reading,* 11 (April 1968), 513-517, 575-578. (12 references)

Presents a revision of the Readability Graph, directions for its use, and validity data that compares readability scores on several different formulas. Concludes that the Readability Graph is a faster, simpler method that correlates highly with the Dale-Chall, SRA, Flesch, and Spache formulas.

KLARE, GEORGE R. *The Measurement of Readability.* Ames, Iowa: Iowa State University Press, 1963, 328 pp.

Consists of four parts: 1) practical applications, 2) measures of readability, 3) basic considerations in readability, and 4) annotated and classified bibliography. Defines readability in terms of legibility, interest, and understanding. Analyzes the research available as it concerns understanding, not legibility or interest.

KLARE, GEORGE R. "Comments on Bormuth's Readability: A New Approach," *Reading Research Quarterly,* 1 (Summer 1966), 119-125. (24 references)

Reviews article which posed the problem of readability research lag at a time when the importance of reading and verbal learning have increased immeasurably. Cites the dual cause for the problem and apparent solutions; lists five basic questions raised. Concludes article is valuable.

LEE, WAYNE D. "What Does Research in Readability Tell the Classroom Teacher?" *Journal of Reading,* 8 (November 1964), 141-144. (38 references)

Reviews the use of readability formulas since the publication of the first Lorge handbook. Refers to three kinds of research done first, then to later techniques. Lists the most valid formulas – those based upon empirical versus logical support. Correlation among the various formulas seems limited. Concludes further study needed.

MARTIN, MAVIS. "Refinement of a Readability Formula," *Eleventh Yearbook of the National Reading Conference,* 1962, 131-138. (14 references)

Refers to a variety of readability formulas. Discusses a particular approach, compares it experimentally, and finds no significant difference. Although a "50-page" count (i.e., sampling every 50 pages) was found to be satisfactory, a question was raised: What is the relationship between number of samples necessary for a dependable index and length of material being evaluated? Concludes that development of more efficient sampling techniques is needed.

WEIGAND, REGIS B. "Pittsburgh Looks at the Readability of Mathematics Textbooks," *Journal of Reading,* 11 (December 1967), 201-204. (6 references)

Reports readability project. Concludes many math texts too difficult for the students who use them; teachers willing for the most part to try new texts. Recommends that: 1) text selection committees study carefully the students for whom particular texts are to be selected; 2) committees should run their own readability checks; 3) committees should consider multiple text adoptions for given courses; 4) those responsible should increase efforts to disseminate information regarding student performance levels and text difficulty levels; and 5) educators should give more evaluative feedback to publishers.

SKILLS

Considers the range from the highly specific paragraph reading to the very generalized reading improvement. Many of these references could have been cataloged under other headings such as critical reading, language, and thinking. They are included here because their emphasis is upon the skill as such.

BLOOMER, RICHARD H., and ANDREW J. HEITZMAN. "Pretesting and the Efficiency of Paragraph Reading," *Journal of Reading,* 8 (March 1965), 219-223.

Reports about the relationship between information presented in short selections and the student's comprehension. Concludes, on the basis of 146 grade eight students from six classes in several schools, that the pretest reduced tension of the individual thereby reducing his motivation to learn. Suggests the elimination of pretesting in the case of reading short selections for comprehension.

HAFNER, LAWRENCE E. "Using Context to Determine Meanings in High School and College," *Journal of Reading,* 10 (April 1967), 491-498. (38 references)

Relates the values of context use and delineates types of context and context aids. Discusses the ability to use context and what context involves. Sums context is valuable.

LEE, WAYNE D. "Why Bother to Teach Critical Reading Skills to College Reading Classes?" *Seventeenth Yearbook of the National Reading Conference,* 1968, 132-136. (15 references)

Supports three basic assumptions: 1) elementary and secondary reading teachers believe that critical reading skills can be taught to their classes, 2) members of the National Reading Conference do not place a proper emphasis on the teaching of critical reading skills, and 3) college reading teachers do not teach critical reading skills. Concludes that college students will not set any higher reading level for themselves than that required by their reading teacher.

LEWIS, NORMAN. *How To Become a Better Reader.* New York: Macfadden-Bartel, 1964, 368 pp.

Designed for the disciplined, motivated reader who seeks to become more efficient. The six parts include: 1) how to read with a purpose, 2) how to react to changing levels of meaning, 3) how to recognize the author's pattern of thinking, 4) how to think along with an author in the pattern he sets up, 5) how to skim successfully by following an author's pattern of thinking, and 6) how to read for pleasure and profit.

MC CALLISTER, JAMES M. "Using Paragraph Clues as Aids to Understanding," *Journal of Reading,* 8 (October 1964), 11-16. (9 references)

Illustrates nine types of paragraphs as evidenced by differing internal clues. The nine types are: 1) introductory statements, 2) paragraphs of definition, 3) principle explained by illustration, 4) associating text with pictorial illustrations, 5) comparison and contrast, 6) cause and effect, 7) problem solution, 8) chronological events, and 9) enumeration or summary. Concludes

that the great variety in writing forms indicates the diverse mental processes necessary for proper interpretation and that use of these different forms constitute valuable aids in teaching comprehension skills.

MICHAELS, MELVIN L. "Subject Reading Improvement: A Neglected Teaching Responsibility," *Journal of Reading,* 9 (October 1965), 16-20.

Reports doctoral dissertation by high school principal which surveyed student response to a variety of questions. Some dealt with the kind of reading assignments given and the method of attack, the reading difficulties encountered, and the rank order difficulty of several subjects. Concludes that more specific instruction in reading skills is needed and should be given by content teachers.

NILES, OLIVE. *Improvement of Basic Comprehension Skills: An Attainable Goal in Secondary Schools.* Chicago: Scott, Foresman, 1964, 18 pp.

Concentrates on three fundamental skills of comprehension: 1) understanding thought *relationships,* 2) reading with a *purpose,* and 3) drawing on *experience.* Defines comprehension as "a forceful reaction in the light of definite purpose." Discusses these topical considerations: questions that test vs. questions that teach, the right question at the right time, directed reading in content areas, individual study, follow-up questions, the gradual advent of independence. Advises that teachers check their own reading experience and share purpose with their students.

ORGEL, JOSEPH R. *Reading Comprehension.* New York: Oxford Book, 1960, 269 pp.

Divided into three parts, this text seeks to help prepare students for college entrance scholastic aptitude tests, New York State Regents Examinations, Westinghouse Science Aptitude Examinations, and other Terminal and Scholarship exams. The first part contains five S.A.T. exams each with four parts; the second section includes ten Regents exams; and the third part of the book is comprised of nine Westinghouse science aptitude exams. Certain guidelines, strictures, and prescriptions are laid down about the taking of tests, the art of reading, and science of study.

RAYGOR, ALTON L., and EDWARD G. SUMMERS. "A Comparison of Two Methods of Teaching Reading Efficiency," *Twelfth Yearbook of the National Reading Conference,* 1963, 118-123.

Evaluates the use of programed reading materials. Results inconclusive. Recommends a longer instructional period, a test designed for the task at hand, and a comparison among several methods.

ROBERTSON, JEAN E. "Pupil Understanding of Connectives in Reading," *Reading Research Quarterly,* 3 (Spring 1968), 387-417. (31 references)

States five hypotheses; defines terms employed; analyzes sentences of selected basal readers; constructs Reading Connectives Test; conducts pilot study; builds alternate format; makes Written Connectives Test. Concludes this doctoral dissertation by finding that students need to heed grammatical clues more closely to avoid misunderstanding. Implies closer attention necessary for the systematic development of comprehension skills.

THEORY

Stagnation, atrophy, and erosion cannot occur in a field where the theoretical thrust is maintained. Here is a selective collection of references exploring and probing the depths of reading comprehension.

HOLMES, JACK. "Speed, Comprehension, and Power in Reading," *Eleventh Yearbook of the National Reading Conference,* 1969, 6-14. (2 references)

Explains the substrata factor theory of reading, and reports experimental findings based upon that theory. States that the mind *mobilizes* sets of *subabilities.* Defines comprehension as "the reassembly in the mind of the coded audiovisual and kinesthetic impressions derived from the descriptions of concrete objects. Power, on the other hand, compares and contrasts these impressions with those previously stored from past experience." Concludes that Range of Information is the most important reading power variable.

KINGSTON, ALBERT J., JR. "The Measurement of Reading Comprehension," *Ninth Yearbook of the National Reading Conference,* 1960, 88-93. (3 references)

Examines fundamental assumptions and methods employed to measure reading comprehension. Suggests such measures may be subject to impurities and that a closer relationship should be established with current learning theory.

KINGSTON, ALBERT J., JR. "A Conceptual Model of Reading Comprehension," *Tenth Yearbook of the National Reading Conference,* 1961, 100-107. (4 references)

Strives to clarify the confusion rooted in the complexity of understanding the process of reading. Stipulates four postulates: 1) reading comprehension can best be understood as a product of communication that results from interaction between reader and writer; 2) effective communication results from agreement about the symbols employed in reading of common experience; 3) comprehension is likely to result if the printed symbol is interpreted with facility and efficiency – the latter is dampened or enhanced by motivation, skill; and 4) reader personality structure conditions receipt of, and reaction to, the message.

KINGSTON, ALBERT J., JR. "Some Thoughts on Reading Comprehension," *Eleventh Yearbook of the National Reading Conference,* 1962, 20-23. (5 references)

Relates certain theories and findings about broad aspects of verbal behavior to the concept of reading comprehension. Defines reading as a process of communication by which a message is transmitted graphically between individuals. Stresses the importance of the writer. Notes the lack of flexibility inherent in graphic methods of communication that shifts emphasis to the symbols used in transmission and reception. Illustrates by hypothetical reactions to a nursery rhyme. Concludes that patterns of response must include questions, discussions, and suggestions.

KLING, MARTIN. "Power of Reading through Interfacilitation and the Content Areas," *Fifteenth Yearbook of the National Reading Conference,* 1966, 147-156. (23 references)

Deals with content area reading as it relates to the substrata factor theory of reading. Includes historical background and pertinent studies prior to the theory. Presents a substrata analysis of English literature and implications for further teaching and research.

MC CREARY, ANNE PHILLIPS, and ALVIN J. SURKAN. "The Human Reading Process and Information Channels of Communication Systems," *Journal of Reading,* 8 (May 1965), 363-372. (7 references)

Presents a comprehensive logical model of the reading act that includes processes involved in reading, the source of information (the author), the information channel (the reader), and storage (memory, notes, models). Model is justified by its function as a guide to the unknown, framework for organization, and as a structure for the recognition of interrelationships.

REYNOLDS, RICHARD J., and ROBERT A. PALMATIER. "The Effects of Input on the Reading Process," *Journal of Reading Behavior,* 1 (Summer 1969), 15-31. (14 references)

Reports an experiment with 60 illiterate Negroes in an adult education class at the University of Georgia. Suggests that a modified informational theory paradigm provides an explanation for the psychological processes involved in the development of reading skills. Concludes that the mode of presentation effects response. Recommends further research to explore the implications of this paradigm for the classroom.

SINGER, HARRY, and ROBERT B. RUDDELL (Eds.). *Theoretical Models and Process of Reading.* Newark, Delaware: International Reading Association, 1970, 334 pp.

Presents papers in two parts: 1) those written for the Holmes Memorial Symposium in May 1969, each of which is then reacted to by another participant; and 2) selected reprints and solicited papers on the process of reading and theoretical models. Specific topics include: Language Acquisition and the Reading Process; Modes of Word Recognition; Models of Perceptual Processes in Reading; Affective Factors in Reading; Reading as Cognitive Functioning; and Theoretical Models of Reading. In the second part, the papers consider Substrata-Factor Theory of Reading; A Developmental Model of Speed of Reading in Grades Three through Six; A Theory of Language, Speech, and Writing; Psycholinguistic Implications for a Systems of Communication Model; Psycholinguistic Guessing Game; Reading Competency Model; Reading as an Intentional Behavior; and Learning to Read.

SMITH, DONALD E. P. "Reading Comprehension: A Proposed Model," *Ninth Yearbook of the National Reading Conference,* 1960, 21-27.

Presents Guilford's "Three Faces of Intellect," and "Two Faces of Comprehension." Discusses the interrelationship of intelligence, concept formation, and reading comprehension, and how to teach comprehension.

SPACHE, GEORGE D. "What is Comprehension?" *Eleventh Yearbook of the National Reading Conference,* 1962, 17-19. (5 references)

Describes comprehension as a gestalt: the whole is greater than the sum of its parts. Puts the substrata-factor theory into perspective by showing that its elements are not new, but that the contribution of each element is now better known and that the theory is a good teaching and diagnostic device. Defines

comprehension by citing the ideas of Smith and Guilford, mentioning cognition, memory, convergent production, inductive reasoning, divergent production, deductive reasoning, evaluation, and critical thinking.

WARK, DAVID M. "Reading Comprehension as Implicit Verbal Behavior," *Seventeenth Yearbook of the National Reading Conference,* 1968, 192-198. (25 references)

Presents a "periphalist" point of view by treating thinking and comprehending as subvocal muscle response. Cites the work of behaviorist Watson and the operant conditioning of Skinner as providing the rationale for this paper. Opposes the catchall notion of reading being completely complex and of the researcher moving incognito into the "terror" (sic) of the reading jungle.

THINKING

Thinking and its correlatives are included here, among them concept attainment, cognitive functioning, and problem solving. The references cited are limited to the field of reading, although obviously work done in related disciplines has made major contributions to our knowledge of the thinking process.

ADAMS, JULES C. "Thinking Processes and Their Relation to Comprehension," *Twelfth Yearbook of the National Reading Conference,* 1963, 213-219. (4 references)

Considers background of experience, concept formation, attention and concentration, and the role of defenses. Concludes that comprehension is not merely intellectual, but also affective, involving the entire person even when one seals off certain ideas and emotions in a more limited understanding.

ASCHNER, MARY JANE, and CHARLES E. BISHOP (Eds.). *Productive Thinking in Education.* Washington, D.C.: National Education Association, 1965, 306 pp.

Presents four parts: 1) intelligence and its development; 2) maturation, personality, and productive thinking; 3) assessment of productive thinking; and 4) education for productive thinking. Each of the 11 chapters is followed by commentary and implications for teaching. Chapter topics are: Intelligence Factors; Experience Factor; Developmental Functions; Motivation to Achieve; Knowledge Seeks Motivational Variables; Personality Correlates of Creativity; Measurement of Creative Behavior; Assessment of Originality; Educational Changes to Develop Creativity; Educational Implications; and Summary and Interpretation.

AUKERMAN, ROBERT C. "A Dynamic New Approach to Developing Thinking, Speaking, and Writing," *Journal of the Reading Specialist,* 2 (December 1966), 64-69.

Describes the use of pictures to stimulate children to answer the question: "What happened?" Pictures deal with the factual, secondary students' interests, the psychological, social problems, group activities, early elementary interest level, and universal interests.

BERG, PAUL C., and JOHN E. GEORGE (Eds.). *Reading and Concept Attainment.* Newark, Delaware: International Reading Association, 1967, 53 pp.

Considers concept learning; two processes of concept formation – Associative and Deductive – and reading, thinking, and concept attainment. Under concept learning five principles are enunciated. Contains 10 references. In the second paper the role of variety is considered in forming concepts. Includes 37 references. The third paper deals with reflection, semantic analysis, meaning shifts, and definite and indefinite language.

DURRELL, DONALD D. "Developing Reading and Thinking Skills," *Annual Reading Conference at Syracuse,* 1963, 1-9.

Describes types of thinking, thinking in reading, and developing thinking skills. Concludes that research in the teaching of thinking should include the evaluation of the effectiveness of different sizes and makeup of pupil teams in relation to the varying tasks in thinking.

LANGER, JOHN. "Vocabulary and Concept Development," *Journal of Reading,* 10 (April 1967), 448-456. (18 references)

Defines concepts, treats concept development, word difficulties, and the study of concepts and their development. Finds that vocabulary is directly related to, and dependent upon, concepts for communication.

SINGER, HARRY. "Conceptualization in Learning to Read," *Fifteenth Yearbook of the National Reading Conference,* 1966, 116-132. (78 references)

Presents a theoretical formulation and attempts to integrate this interpretation with the substrata factor theory of reading. Notes that theory is used not only for explanation but also for prediction. Suggests the theory can also be employed as a cognitive guide for teaching reading.

STAUFFER, RUSSELL G. "The Role of Language in Thinking," *Sixth Annual Reading Conference of Syracuse University,* 1964, 87-97.

Discusses the language system, thinking, steps in the thinking process, and meaning. Concludes that because language and thought are closely related, the development of basic concepts must be carefully planned over a long period of time in a way that allows for a variety of experiences which must be examined in detail.

STAUFFER, RUSSELL G. "Reading and Cognition," *Sixteenth Yearbook of the National Reading Conference,* 1967, 162-170. (7 references)

Discourses on the dimensions of excellence, cognitive functioning, concept attainment, egocentrism, and intelligence. Urges that children be required to do their own learning. Concludes reading-to-learn should preside over learning-to-read.

STAUFFER, RUSSELL G. "Reading as Cognitive Functioning," in Harry Singer and Robert B. Ruddell (Eds.), *Theoretical Models and Processes of Reading.* Newark, Delaware: International Reading Association, 1970, 124-139. (37 references)

Reviews theories and practices of language and thought, cognitive development, concept learning, critical thinking, and teaching strategies. Concludes that if reading is a thinking act, then it should be treated within a developmental interactionist theory of cognitive activity.